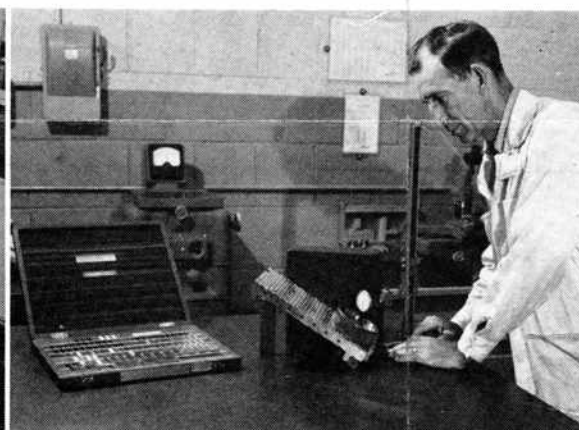




THREE DEVICES FOR MEASUREMENTS up to one one-millionth of one inch in the General Machine Shop Inspection Standards Laboratory are shown above. At left is the Swiss-made Universal Measuring Machine used for both lateral and lineal measurements for the checking of tools and

other equipment in the shop where a high degree of accuracy is required. The center picture shows the Shadowgraph on which is tested gear ratios, screw threads and other items on a lighted screen. At right is the Monolight for the optical testing of flat surfaces.



THE MASSIVE PRECISION SURFACE PLATE in the General Machine Shop Inspection Standards Laboratory is shown in the picture at left with Russell Hopper and Mike Shemanski, foreman of the Inspection Department of the shop setting up equipment for the measurement

and checking of angles. The black granite plate is eight by four feet in size and 20 inches deep and weighs 10,500 pounds. At right Hopper is using a sine plate and laboratory gauge blocks while checking an angle on a piece of equipment. More pictures on Page Four.

How Little Is One One-Millionth Of An Inch?

Highly Accurate Machines In Inspection Standards Laboratory Used In Checking Shop Equipment And Gauges Used In Y-12 Plant

Tests Are Reflected In Safety Of Tools

How much — or rather, how little, is one one-millionth of an inch?

Well, authorities state that human hair measures from 1/1,000th to 1/2,000th of an inch in diameter — so that one one-millionth of an inch would seem to approach infinity in the field of measurement. Can it really be measured?

Sure — right in the Inspection Standards Laboratory in the Y-12 General Machine Shop of the Mechanical Operations Division. Completed comparatively recently, this laboratory's principal function is to check the accuracy of inspection equipment and gauges used in the General Machine Shop and other places in Y-12. Its equipment is the best, most accurate and most modern obtainable. Most of it is American made, but at least two of the machines are of German and Swiss make. Incidentally, all of the equipment is standard and used in the leading standards laboratories in the world.

Connected with Plant Safety
The laboratory has a direct connection with the safe operation of plant machinery in that the tests and checks made there are reflected in the accuracy and safety of machines operated throughout the Y-12 Plant Area.

The Y-12 Inspections Standards Laboratory is located in a room in Bldg. 9201-1, the room naturally being kept at a constant temperature of 70 degrees, Fahrenheit, as the variance of only a degree or two would affect the delicate instruments. Even human body heat affects some of the machines.

E. R. Watkins is Department Superintendent of the General Machine Shop, working under J. M. Case, Mechanical Operations Division Superintendent. The laboratory work is done under the supervision of Mike Shemanski, foreman of the Inspection Department of the Machine Shop.

Amazing Precision Available In Work

In the laboratory itself, most of the actual testing and measuring is done by Russell Hopper. He is thoroughly familiar with all of the machines and equipment used there and is kept busy throughout the day in running tests for shop employees as well as for many other Y-12ers who avail themselves of the facilities of the laboratory.

Speaking of measurements in millionths of inches—it is done on a piece of equipment known as a Universal Measuring Machine. It is a Swiss-made machine and according to Hopper, the "pride and joy" of the laboratory. A chest full of accessory "gadgets" enable this machine to register its almost unbelievably accurate measurements on a wide variety of tests and checks.

With its varied equipment, this complicated machine is used for

Continued on Page 4

Y-12er Among First Six To Buy Homes In Ridge

R. Hickman Purchases California Ave. House

Picture On Page Two

A Y-12 instrument mechanic in Electrical Maintenance, Reuben F. Hickman, was one of the first six persons to become Oak Ridge home owners last week, completing details for purchase of the A House at 175 California Ave., in which he and his wife have been living for about one year.

The first sales of Oak Ridge homes were completed quickly on Tuesday, September 11, with brief ceremonies staged for the benefit of photographers and a group of prominent Oak Ridge officials and community leaders who have been working with the Atomic Energy Commission on its program for disposal of Oak Ridge homes to the people.

The Hickmans paid \$2,831 in cash for their A House home. They plan no immediate alterations or improvements on the property.

Continued on Page 2

German Scientist To Speak At Physics Seminar Meet

Dr. Walter Kofink, a German scientist from the Institute of Technology of Karlsruhe, will be the speaker at the weekly meeting of the Oak Ridge Physics Seminar scheduled for 3:15 o'clock Friday afternoon, September 21. The meeting will be in the auditorium of Bldg. 4500, Oak Ridge National Laboratory, and the discussion subject will be "Helium II."

Dr. Kofink now is connected with ORNL. For the past year he has been studying at the California Institute of Technology under a Fulbright Scholarship.

ATOMIC BOMB PREVENTION?

A Seattle, Wash., man recently found by police with 41 bottles of moonshine whiskey in his room told officers he was only "keeping it on hand to drink in case of an atomic bomb attack."

UCC Ranks High In Industrial Firms Of Nation

Corporation Second Biggest In Chemicals, Says Fortune Magazine

What is the biggest industrial company in the United States? General Motors is first. Consolidated Cigar is 498th. Union Carbide and Carbon Corporation ranks high on the list of industrial companies, being well toward the top in both sales and profits.

Fortune Ranks 'First 500'

A company can be ranked several ways—by sales, by assets (the total value of the company), and by net profits. The usual way is to list companies according to their sales during the previous year. Fortune Magazine has published a list of the "first 500" industrial companies, ranking them according to these categories and two others, number of stockholders and number of employees.

Here's how Union Carbide stands. Last year UCC was 22nd in total sales (\$1,187,153,000). That was a gain of two places over the previous year. The Corporation passed International Harvester and Radio Corporation of America.

In both assets (\$1,371,988,000), and in net profits (\$140,756,000) UCC ranked 13th. In number of employees (73,126) UCC was 20th, and in number of stockholders (114,310), the Corporation ranked 15th.

In the chemicals industry UCC ranked second, the biggest competitor being E. I. duPont de Nemours (No. 10 on the list in sales last year). Following the leaders were Allied Chemical and Dye (53), Olin Mathieson (60), Monsanto (69), and Dow (77).

Union Carbide Not Relaxing

Fortune's list provided further evidence that if a company is to progress, it can't afford to relax. A total of 22 companies that were on the previous year's "500" slipped off this latest list. There were numerous cases of companies falling off in the standings by 20 places or more.

But Union Carbide is not relaxing—it's expanding its research, development, production and marketing efforts, and continually looking for new opportunities. In this way Union Carbide insures its continuing successful operations at a profit and that means more job security and prosperity for all Union Carbide people.

MOVERS! If you have moved from the precinct or voting district where you were previously registered, you may have to register again. Check up on it!

SAFETY SCOREBOARD
The Y-12 Plant Has
Operated
33 Days Or
1,107,909 Man-Hours
(Unofficial Estimate)
Without A Lost Time
Injury
Through September 16

The Bulletin

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Bldg. 9704-2 Room 228
Telephone 7751

10 Years Service

Congratulations to **Charles C. St. John**, Research Services, who will complete 10 years of Company Service on September 29.

Project Engineering Picnic Enjoyed At Big Ridge Park

Project Engineering people kicked up their heels and had a big time at a departmental picnic held September 8 at Big Ridge Park. The usual picnic recreation activities were staged, including badminton, horseshoe pitching, boating and croquet. The picnic dinner was spread family style and there was ample good visuals for all of the approximately 85 persons attending.

ASME To Hold Annual Smoker On Thursday Night

All Y-12 members of the Oak Ridge Group of the East Tennessee Section of the American Society of Mechanical Engineers are urged to attend the annual smoker meeting of the organization tomorrow night, Thursday, September 20. The affair will be held in the Starlight Room of the Oak Terrace. A color moving picture will be shown of the tower shielding facility reactor at the Oak Ridge National Laboratory.

"What's up, Doc? A delivery?"
"No. I'm off to register for the November 6 election. How about you?"



"BIG JOKE" BETWEEN MOTHER and young daughter is the title of this winning picture, at top, in the Y-12 Photographic Contest for the week ending September 7 and taken by J. H. Stewart, Health Physics. Second place went to Dave Alford, Beta Two, for his picture of an old country church near Briceville, Tenn., showing a unique type of architecture.



REUBEN F. HICKMAN, OF THE Y-12 ELECTRICAL MAINTENANCE Department was one of the first six persons to complete the purchase of an Oak Ridge house. He is shown above in front of the A House at 175 California Ave. that he purchased last week. This picture is used by courtesy of The Oak Ridger as Hickman was not available for a Y-12 photograph at his home last week because of an out-of-town trip.



It won't be long now—summer is waning and fall is officially due on the scene September 22. So to bid farewell to one season and to greet another, it's off to see what's going on around the reservation.

ALLOY

Alpha Four advises that **W. C. Toomey** used his vacation to travel the 10-gallon hat country, Oklahoma and Texas . . . **B. G. West** used his'n helping an uncle to build a cabin on Watts Bar Lake. . . . **Helen Gombita** is sashaying around Washington, D. C., and points in Pennsylvania and plans a stop in Baltimore to see the Yankees and Orioles cross bats . . . **T. S. Arnold** is resting up on his farm in Lee County, Va. . . . Get well wishes go to the son of **Gordon Grooms**, who has been ill—likewise to **Elmer Johnson**, who has an ear and throat infection.

Nell McGinnis, Alpha Five, is gallivanting around Washington—probably with her tennis pal **Helen Gombita**, mentioned above.

Beta Two has **J. E. White** on vacation at home in Oak Ridge and **J. T. Berry** visiting relatives over in Union City, Tenn.

SHIFT SUPERINTENDENTS AND GENERAL UTILITIES

J. F. Mays, Steam Plant, spent a week with kin folks in Tampa, Fla., recently—on his next long break he is going to visit Mrs. Mays' parents in Bryson City, N.C. General Utilities sends rapid recovery wishes to **J. W. Rankin**—and welcomes back **N. B. Foust** from the sick list . . . **Jackie Ford** is really getting around in that sleek new gray ottomobile . . . **L. M. Adams** is covering lots of vacation territory—Copper Hill, Tenn., Charlotte, N. C., and Spartanburg, S. C. . . . **W. T. Van Noddall** picked Jacksonville and Daytona Beach, Fla., for his vacation. . . . **G. R. Beasley** went to Indiana and **J. C. Yarber** is toiling around his home.

A Shift Supt. **Jud Temple** entertained relatives from Monroe, La., recently.

INDUSTRIAL RELATIONS

Jim Chambers, Medical, has been taking it easy at his home over on Solway Road.

Guard Chief **Miles Bradford** was in Memphis last week to attend the funeral of his brother-in-law.

Audrey Jones, Personnel Services, has been visiting kin folks in Birmingham.

Edna Kennedy, Insurance, and her husband, **E. E. Kennedy**, C Mechanical Operations, have been vacationing at home.

Jamie Goodman, premier pie maker supreme of the Cafeteria, is visiting his son, **Dr. J. B. Goodman**, in Chattanooga and will return with his grandson while the

younger Goodmans are awaiting another visit from Mr. Stork . . . **Irene McCrosky** is vacationing at home in Sweetwater.

TECHNICAL

Kay Sideris, Project Engineering, entertained **Virginia Perkins**, also an Engineering employee, with a crystal shower last Thursday night—Miss Perkins is to be married September 22 . . . **R. A. Williamson** is the Proud Pop of a daughter, weighing seven pounds, 14 ounces, born a few days ago at Oak Ridge Hospital . . . Get well wishes to **Reggie Lovell**, in St. Mary's Hospital, Knoxville.

Chemical and Industrial Engineering has **John Lawless** painting his house in Knoxville while vacationing . . . **J. A. McKenzie** is moving into his new Knoxville home while off.

Leon Scaff, Mechanical Engineering, has been taking it easy over at Kingston.

Production Analysis sends rapid recovery wishes to **Betty Creigh**. . . . **Marie Dinsmore** and her husband, **John**, are vacationing in Pennsylvania.

Tom Mackey, Development, has been sightseeing in Florida . . . Get well wishes to **F. A. Schimmel** in Oak Ridge Hospital . . . The welcome mat was out last week for **C. R. Schmitt**, recently transferred from K-25.

MECHANICAL OPERATIONS

A week of deep sea fishing off Panama City, Fla., is occupying **A. A. Gardner**, A Mechanical Operations . . . **H. M. Zimmerman** is on a skin diving expedition with his son in Florida . . . **J. J. Brock** is squirrel hunting—no reports—yet . . . The department welcomes **H. L. Hamilton** back to work after recovering from accident injuries.

B Mechanical Operations extends condolences to three of its group . . . **A. G. Keisling's** mother died September 6, the father of **C. C. Tenpenny** died September 8 and the sister of **R. H. Sanford** died September 9 . . . Get well wishes to **E. Branor** and **D. H. Stephens**, both on the sick list . . . **V. C. Hallmark** and family had a long trip out to Texas, New Mexico, Arizona and Utah . . . **K. G. Kincaid** is at home in Loudon County and if the urge hits him he may build a new chimney on his house . . . **T. H. Cordle** is going to stay home and catch up on his fishing.

Lots of industrious folks in D Mechanical Operations—**Charles Phillips** is working on his new home at Marlow . . . **Chester Estes** is building a basement for that Oak Ridge home he plans to purchase . . . **Alvin Henderson** is building a new home over at Hariman—having his own lumber cut and sawed and doing the labor

Y-12er Among First Six To Buy Homes In Ridge

Continued from Page 1

Hickman came to work in Y-12 on March 8, 1954. They received their deed for the property immediately after the sale was consummated.

George W. Flack, Y-12 Industrial Relations Superintendent and President of the Oak Ridge Chamber of Commerce, was among the community leaders watching the rapid proceedings that marked the first six sales of Oak Ridge houses. Paul Arow, Oak Ridge National Laboratory employee in the Y-12 Plant Area, former Y-12er and now chairman of the Oak Ridge Town Council, also was present; as was S. R. Sapirie, Oak Ridge Operations Manager for the AEC, and others.

The Housing and Home Finance Agency is proceeding with the sale of the remainder of the 433 cements houses to be sold under the current program, according to Alex W. Johnson, head of the agency in Oak Ridge.

himself . . . **R. E. Newcomb** is vacationing around Farragut and **L. D. Best** is at home in Sweetwater.

C Mechanical Operations was represented at those Labor Day automobile races at Darlington, S. C., by **C. K. King**, **L. M. Bray** and **Cecil Houser**—Houser now is vacationing at home in Knoxville. . . . **Charlie McMahon** was busy ogling the big fair at Knoxville last week.

James Livingston, General Machine Shop, is touring the Carolinas . . . **C. W. Williams** is building a new home in Lenoir City . . . **F. A. Stewart** and his visiting brother from Sparta, Tenn., have been doing some fishing and hunting . . . **Denton Bowens** was another fair visitor last week over in Knoxville . . . **Trygve Knudson** is entertaining Mr. and Mrs. Foster Mayer, from Tulsa, Okla., seeing the sights hereabouts . . . Homes in Clinton and Knoxville are vacation retreats for **W. O. Thompson** and **C. M. McClain** . . . **Glenn Easter** is doing some fishing and hunting while resting at Concord.

MANUFACTURING OFFICE

Daniel Cox, Timekeeping, vacationed at home in LaFollette . . . **Bob Worthington** did likewise at Clinton.

Reproduction sends get well wishes to **Alberta Phillips** . . . **Tom Hillard** has been over to Jackson, Tenn.

The Mail Room sent get well wishes last week to **Dot Park**.

Betty Walker, Engineering Records, is resting at home in Clinton. . . . **J. D. Raulston** is at home in Strawberry Plains for a few days.

Bart Slover, Stores, is spending all of his three weeks of vacation visiting in Cleveland, Ohio . . . **L. H. Guettner** is touring Florida.

Receiving sends rapid recovery wishes to **A. O. Phillips** in Oak Ridge Hospital . . . **Delores Campbell** is vacationing at home.

The Cashier and Travel Office and many other friends of cute little **Sue Stewart**, who used to figure out destinations for Y-12ers and then tell them where to go, are glad to hear she became the mother of a fine son at St. Mary's Hospital, Knoxville, on September 10—little Howard Kenzie Stewart weighed seven pounds, five ounces on arrival.

MAINTENANCE

That loud triumphant trumpeting noise heard around Maintenance Division GHQ last Thursday was being emitted by **Al Groppe** on the occasion of becoming a Grandpop for the ninth (what's that?) time . . . The youngster was a girl born to Wayne Groppe, formerly a Y-12er with Mechanical Engineering, and his wife at Milwaukee, Wis.

Robert Baker, Electrical Maintenance, is on a delayed honeymoon

Continued on Page 4



Miss Virginia Ann Neal

NSA Scholarship Aids Virginia Neal At Berea College

The Oak Ridge Chapter of the National Secretaries Association formally presented its annual scholarship award for 1956 to Miss Virginia Ann Neal, daughter of a Y-12er, at the chapter's September 10 meeting. Miss Neal is the daughter of H. H. Neal, of the Y-12 Guard Department, and Mrs. Neal. They live at 101 East Pawley Lane, Oak Ridge.

Miss Neal, now majoring in secretarial science at Berea College, in Kentucky, was honored with a shower by the NSA chapter after the meeting. Her scholarship was the third awarded by the association to assist prospective secretaries in continuing their education after graduation from high school.

The Y-12er's daughter graduated from Oak Ridge High School in the 1956 class. She was one of the outstanding students in the commercial department. In addition to other honors she was a member of the National Honor Society, president of the Spanish Club, member of the Student Council, the Chemists, Swankettes and the high school band.

The NSA chapter presented Miss Neal with a secretarial handbook last April during National Secretaries Week for her accomplishment of being 99 per cent accurate in transcribing dictation at a rate of 120 words per minute. She also received honorable mention from the chapter for her typing at 63 words per minute.



Get well wishes are sent the following Y-12 employees who were patients during last week at the Oak Ridge Hospital:

Lillian Hamlet, Laundry; Fred A. Schimmel, Development Operations; Brandt Kuperstock, Instrument Engineering; J. C. Crowe, Carl Oody and John W. Munchey, Buildings and Grounds; C. H. Wade and J. C. Holt, Mechanical; A. O. Phillips, Receiving; H. A. Miller, Tools; John Q. Hopwood and C. W. Siler, Coalex Operations; B. M. Cox, Electrical Maintenance.

A Shift Sets Weiner Roast At Ft. Loudon September 24

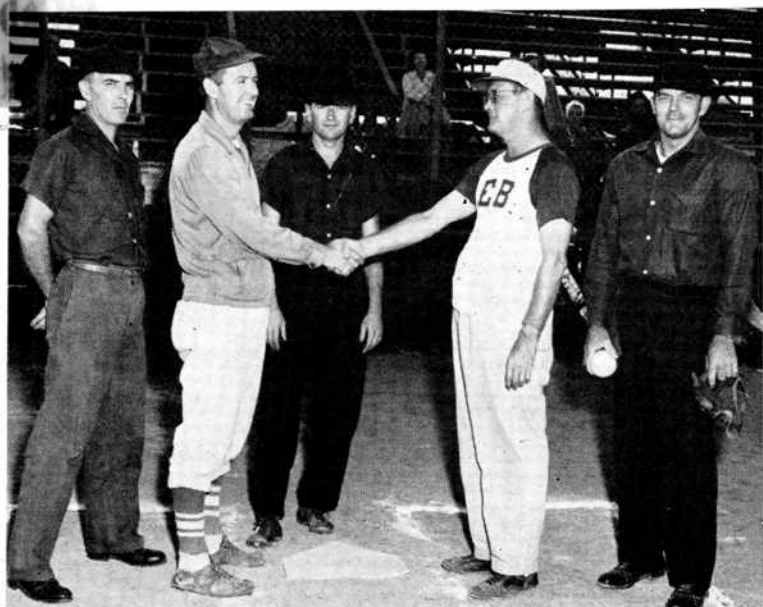
Outdoor recreational activities for Y-12ers on the A Shift will continue with a weiner roast being scheduled for employees on that shift to be held Monday, September 24, at Ft. Loudon Dam. All food and drinks will be furnished by the shift recreation committee and a large attendance is expected.



AMERICAN LEAGUE AND Y-12 PLANT CHAMPIONS, the 49ers, are shown above at left. In the front row from left are Bill Dodson, Ed Sise, Bill Belvin, Clyde Hopkins, R. E. Justice and George Wylie. In rear are Lew Fitzgerald, Sewell Brown, Ray Ellis, Manager Ralph Ford and Clyde Carter. Squad members absent when picture was made include Jack McLendon, Roy Roberts, John Lay and Curt Ridings. At right are the National



League champions, the Early Birds. In the front row, from left, are J. R. Murphy, C. E. Spradlin, J. S. Stewart, Bobby Lowery, Manager J. J. Winslett, C. R. Bowman, P. W. Bullard and Hoyt Huston. In rear are Max Whitley, J. L. Crosno, T. W. Compton, G. B. Butters, M. Q. Keiser, J. Massengill, D. R. Murphy and D. Massengill. The players are holding trophies awarded for winning their league titles.



"JUST BEFORE THE BATTLE" could be the title of this picture showing smiling Manager Ralph Ford, of the 49ers, shaking hands with grim Manager J. J. Winslett, of the Early Birds, just before their "world series" for the Y-12 Plant softball championship. The 49ers won the series by copping a double header. The umpires are, from left, Earl Hamilton and John Sewell, both Y-12ers; and H. E. Walters, who called the final series.

Early Birds, Rebels Win Sportsmanship Awards; Umpires Praise Y-12ers' Conduct

One of the outstanding features of the recently completed softball season by Y-12 Plant teams was the sportsmanship shown by individuals and teams alike—both to their opponents and, believe it or not, to the umpires. During the entire season, not a single squabble between a Y-12 player and a man in blue occurred and not a single protest was voiced by a disgruntled athlete wearing the uniform of a team in either of the two Y-12 leagues.

Rival Managers Vote Awards

In the two leagues—the American and National—composed of Y-12 players, team managers voted their opinion of their rival teams displaying the best sportsmanship on the field during the season. In the National League, the loop championship Early Birds were voted this coveted award while in the American League the prize went to the Rebels.

Presented by the Recreation Department, members of both of these teams are being awarded individual trophies. The proud managers were J. J. Winslett of the Early Birds and J. W. Halsey of the Rebels.

Dickens Speaks For Umpires

Milt Dickens, a Y-12er himself and head of the officials organization in Oak Ridge that provided the umpires for the Y-12 leagues, commented for himself and on behalf of the various umpires that worked the Y-12 games:

"The conduct and sportsmanship of the Y-12 players throughout the season was the best we have ever seen. It was a real pleasure for us umpires to call these games and it is a privilege to congratulate the players and team managers for their behavior. Such conduct cannot but add to the fun of the players themselves and make softball as played in the plant leagues a sport and fun instead of a heated rivalry."

Y-12er Makes Fine Showing At Perry

Carl G. Brewster, Medical, one of Y-12's best rifle and pistol shots, made an excellent showing along with the Tennessee Civilian Rifle Team in the recent national competition at Camp Perry, Ohio. On the 1,000-yard course the Y-12er fired a 96 out of a possible 100, and finished 157th in a field of 1,059 contestants. He also fired in the National Trophy Individual Rifle Matches, but had not received news from Camp Perry just how he finished in that competition.

The Tennessee team was composed of six members, all from Oak Ridge, with one alternate from Knoxville. The team finished third in the civilian and expert class at Camp Perry out of 1,257 teams entered. Finishing below the Tennessee team were many crack service teams.

C Shift To Give Lot As Rodeo Prize

A 51 by 97 foot cabin site lot on an East Tennessee lake will be given away at the C Shift Fishing Rodeo tomorrow, Thursday, September 20, at Elam's Boat Dock on Ft. Loudoun Lake at Lenoir City. The lot will be given away in a drawing. The fishing rodeo will run from noon until 4 p.m. with prizes awarded to anglers with the biggest fish.

ORPS Piloting Class Opens September 20

The annual Oak Ridge Power Squadron class in piloting and small boat handling will open tomorrow night, Thursday, September 20, at 7 o'clock. The class will meet in Room A-244, Oak Ridge High School, and although a registration fee of \$1 is assessed, there will be no charge for the 11-week course.

Everyone interested in boating is invited to attend the classes, which are dedicated to the promotion of safety, good citizenship and good fellowship afloat. The course is open to both men and women and some of the topics to be presented are equipment and government regulations, rules of the nautical road, safety afloat, seamanship, the mariner's compass, aids to navigation, charts and piloting.

Any Y-12er wanting further information on the course may obtain it by communicating with George Banic, ORPS commander, plant phone 7191, home phone 5-8166, Oak Ridge.

Spears Paces Rebels To Classic Victory

Jack Spears, of the Rebels team in the Classic League of Y-12 Plant keglers, really set the hardwood on fire at the Oak Terrace alleys last Thursday night with a blistering exhibition of individual prowess. The lanky lad from the paint shop had one of his best lifetime scores with a towering 267 scratch game, boosted to 310 with handicap, then went on for a 631 scratch and 758 handicap series. This enabled his team to lead in three of the four scoring categories with a 902 scratch game, 1096 handicap score and 3009 handicap series. The Bumpers, trounced by the Rebels for three points, had a 2467 scratch series for tops.

Jack Spears

Meanwhile the Rippers took over first place with a three-point win over the Has Beens as the Screwballs, previous leaders, were blanked for four points by the Tigers. The Swingsters also had a whitewash win over the Wolves. In other tilts the Playboys took three from the Cubs while the Wasps and All Stars rolled to a deadlock of two points each.

League standing follows:

Team	W	L
Rippers	6	2
Tigers	5	3
Wasps	5	3
All Stars	5	3
Swingsters	5	3
Rebels	4	4
Screwballs	4	4
Has Beens	4	4
Wolves	3	5
Playboys	3	5
Cubs	2	6
Bumpers	2	6



THIS FINE RAINBOW trout was caught by Thomas E. Hillard, Reproduction, in the Obey River and entered in the Y-12 Annual Fishing Contest, where it is a prime contender for top honors in its specie.

Evening Shift Plans To Form Pin League

Another bowling league looms for Y-12ers this season with employees on the Evening Shift, working from 4 p.m. to 12:30 a.m., announcing interest in formation of a league for its members. The Recreation Department has called on all Y-12ers on this shift that would like to help form a league or to bowl with one of the teams to communicate with the department at Room 226, Bldg. 9704-2, plant phone 7751, at once so that organization plans can be rushed.

YOUNG VOTERS! If you have reached voting age since the last election, be sure to register and vote in all elections. Get your name in the book!

Y-12ers In Finals Of Nine Flights In All-Carbine Meet

Hines Defeats Orr To Earn Title Match In Champion Group

Y-12 golfers are making fine progress in the All-Carbine Golf Tournament, as results filed in the Recreation Department through Sunday night placed Y-12ers in the finals of nine flights with three having both finalists from the plant.

Gillen Still In Running

In the Championship Flight Art Hines, Y-12, beat his fellow Y-12er, Carl Dorr, one up to reach the finals. There is a chance for an all-Y-12 final match here as A. L. Gillen, Y-12 will meet R. M. Duff, Oak Ridge National Laboratory, in the semi-finals. Duff beat Frank Burchfield, Y-12.

A. L. Sawyer, Y-12, is a finalist in the First Flight, and will play Wayne Greene, K-25. Sawyer trounced J. M. Agee, K-25, five and four. Y-12's I. G. Speas lost out to L. H. Barker, ORNL, in the Third Flight. Tom Tuck, ORNL, ousted B. M. Burris, Y-12, in the Fourth Flight.

Orrison, Bartholomew To Meet

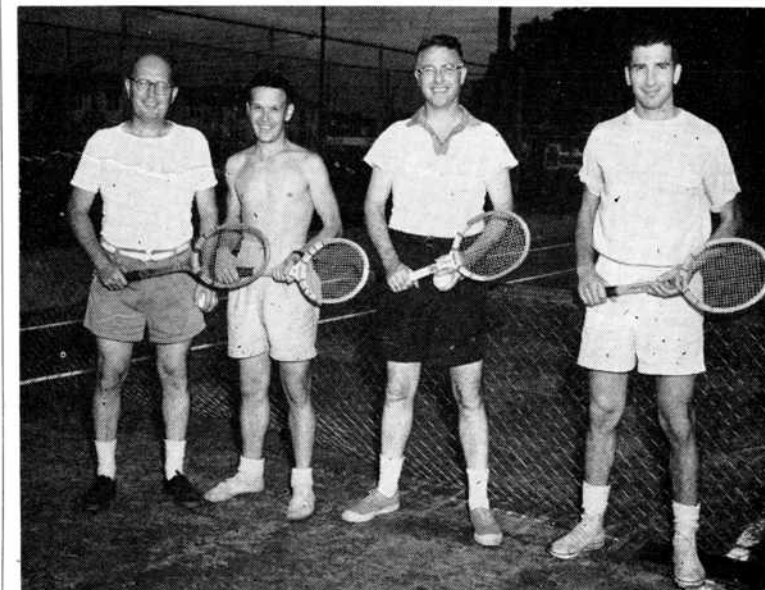
In the Fifth Flight Bob Orrison and J. G. Bartholomew, both Y-12ers, will battle for the crown. Orrison beat G. W. Keilholtz, ORNL, and Bartholomew licked fellow Y-12er C. E. Harris. Harvey Saylor, Y-12, advanced to the finals in the Sixth Flight and J. P. Smith did likewise in the Seventh.

Again in the Eighth there are two Y-12 finalists, E. F. Gambill and Sewell Brown. Another all-Y-12 final will be played in the 11th Flight with Harold Ratjen meeting F. J. Arrowood, who beat E. T. Webster, also of Y-12.

Oliphant Wins In 10th

George Oliphant, Y-12er, traveled from Tullahoma, Tenn., where he is taking Air Force Reserve Training, to beat R. Mintern, ORNL, three up, to reach the finals in the 10th Flight. Right after the match, Oliphant drove back to Tullahoma but will return for his final tilt.

Frank Winstead completed the Y-12 march to the finals by advancing to the last round in the 13th Flight.



THE TOP TENNIS TEAMS OF Y-12 are shown above. From left are Jack Thomson, Bill Hackett, Frank Ballenger and Don Wood. Ballenger and Hackett are paired as are Thompson and Wood in the Y-12 Tennis Ladder with the former holding first place and the latter in second.

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Continued from Page 2
in Washington, D. C. . . . G. F. Beck has been out Texas way and John L. Young visited kin folks in South Georgia . . . C. E. Robinson has been occupying his vacation by celebrating the birth of a new son recently at Oak Ridge Hospital—no further statistics.

Alloy Maintenance hopes that ailing Melvin Oldham, John Sinclair and Vardy Peppers will be back soon . . . Bruce Fox is vacationing up at Morristown.

Eddie Johnson, of the Garage, is vacationing at Knoxville.

Edna Tyler, Maintenance Planning, is out in Omaha, Neb. . . . G. E. Fielden has just been lounging around home but W. R. Duff has been busy working on his domicile . . . Get well wishes to Joyce Williamson at Presbyterian Hospital in Knoxville . . . Mildred White saw the pageant "Wilderness Road" at Berea, Ky., on Labor Day and dropped by to see Cumberland Falls on the way home.

Pistol Teams Meet To Decide Title

Y-12 pistoleers will stage a shoot-off match tomorrow night, Thursday, September 20, to decide the Summer League championship when the Marksmen and the Masters clash to break a tie that existed at the end of the regular season August 30. In the August 30 firing the two leaders broke even, the Masters winning scratch firing 821 to 755 and the Marksmen taking the handicap decision by 865.548 to 864.532.

The Sharpshooters beat the Experts both scratch and handicap in their final match, the scores being 791 to 773 and 863.158 to 861.309.

In individual scoring T. J. Bush was top gun for the Marksmen with 272 scratch and 290.236 handicap. Dave Alford led the Masters with 276 and 288.953. For the Experts J. C. Ezell had the best scratch score of 280 and A. V. Bible the top handicap of 287.413. R. L. Vanderpool paced the Sharpshooters with 272 and 288.904.

At the end of the regular season the Marksmen and Masters were tied at 14 wins and 10 losses each and the Experts and Sharpshooters also tied at 10 and 14.

Ballenger, Hackett Hold Tennis Lead

Frank Ballenger and Bill Hackett retained their top spot on the Y-12 Tennis Ladder last week by turning back a challenge by George Everitt and Sam Campbell 6-2, 6-3. Mike Laggio and John Perry won two matches during the week, defeating Lee Horton and Al Fisher 6-1, 4-6, 6-2 and then being forced to another three-set match to trim John Gregory and John Nicely 6-1, 5-7, 6-3. Nicely and Gregory beat J. R. Sheehan and A. M. Stephens 4-6, 6-4, 6-3.

The ladder standing as of last Friday was (1) Frank Ballenger-Bill Hackett, (2) Don Wood-Jack Thomson, (3) George Everitt-Sam Campbell, (4) Mike Laggio-John Perry, (5) Lee Horton-Al Fisher, (6) John Nicely-John Gregory, (7)

Rides Wanted, Offered

Ride wanted from vicinity Beaver Ridge Road, Ridgedale Community, to East Portal, straight day. F. E. Roberts, plant phone 7-8281, home phone 8-0744, Knoxville.

Ride wanted or will join car pool from vicinity Pleasant Ridge School or Norwood, Knox County, to West Portal, A Shift. E. T. Nickle, plant phone 7924, home phone 116, Ext. 4113, Knoxville.

Ride wanted or will join car pool from Piney Road Church community to Central Portal. J. C. Robinson, home phone 8-5441, Knoxville.

Car pool member wanted from Rambling Acres, Wilson Road, Knox County, to East Portal, straight day. A. L. Sawyer, home phone 5-6543, Knoxville.

Want to join car pool from North Hills section, Knoxville, to West Portal, straight day. R. E. Lee, plant phone 7-8346, home phone 5-6878, Knoxville.

Ride wanted from Marshall Circle, Woodland section, Oak Ridge, to North Portal, straight day. Kate Penland, plant phone 7104, home phone 5-0674, Oak Ridge.

Ride wanted from 4902 Rowan Road, Inskip, Knox County, to Central Portal, straight day. Mary Kennedy, plant phone 7608, home phone 6-0288, Knoxville.

Ride wanted from Cross St., Clinton, to North or Central Portal, straight day. Genie Hale, plant phone 7157.

Riders wanted from Fountain City vicinity to any portal, J Shift. B. L. Miller, plant phone 7515, home phone 6-2795, Knoxville.

Want to join car pool from 100 West Magnolia, Oak Ridge, to Central Portal, straight day. D. L. Glover, plant phone 7248, home phone 5-5071, Oak Ridge.

Ride wanted from Beaver Creek Drive off Knoxville-Clinton Pike to North or Central Portal, straight day. Betty Heath, plant phone 7223, home phone Powell 4-6891.

Ride wanted from 361 West Outer Drive, Oak Ridge, to East Portal, straight day. J. E. Gryder, plant phone 7411.

Ride wanted or will join car pool from 111 West Dalton, Oak Ridge, to Central Portal, A Shift. Violet Wright, plant phone 7248, home phone 5-8147, Oak Ridge.

B Shift Bowling Loop Is Organized

The B Shift Bowling League with six uniquely named teams began alley activities on Tuesday of this week at the Central Bowling Alleys and will roll on every Tuesday from now on to the end of the season. The teams and their captains are the Alligators, D. J. Owens; Challengers, E. F. Fleischman; Ramblers, J. V. Haggard; 7 Ups, Carl Frazier, Sr.; Crocodiles, W. C. Brewer; and Bumble Bees, P. G. Hatmaker. Hatmaker is secretary and treasurer of the new league.

J. R. Sheehan - A. M. Stephens, (8) Steve Dabic-Zane Ardary, (9) Gwen Fletcher-Lois Secrist, (10) Nell McGinnis-Helen Gombita.



HERE ARE SOME MORE PICTURES of important equipment in the General Machine Shop Inspection Standards Laboratory. At left Machinist H. F. Dick is using a Toolmaker's Microscope for checking standard lengths.



At right Russell Hopper is operating the Profilometer that checks finishes of metals and which can detect irregularities up to one one-millionth of an inch. These machines all have an amazing degree of accuracy.

Tots Bowling Loop To Form Saturday

The organizational meeting for the Tots Bowling League of Oak Ridge will be held at 10 o'clock Saturday morning of this week, September 22, in the ballroom of the Oak Terrace, it was announced last week by R. G. Williams, of K-25, director of the league. Williams has urged all Y-12 parents of youngsters between eight and 13 years of age who are interested in bowling in this league to have the children and themselves attend the session.

There were 12 teams in the Tots Bowling League last season, and judging from advance interest in the project this year Williams expects at least 16 teams to roll this season. The league will bowl at 10 o'clock every Saturday morning at the Central alleys with one group rolling at that time and another at noon, teams drawing for the time they will bowl.

Youngsters who have never bowled before are particularly invited to join a team in the league. Len Hart, operator of the Central Bowling Alleys and a Y-12er, is helping Williams with the league organization and will help give instructions to children who have not taken part in the sport before.

The Tots Bowling League is supported from a fund donated by bowlers in several of the men's bowling leagues in the city and from sponsorship of business firms. At the conclusion of the season a party is given the young keggers by the Loyal Order of Moose at which trophies for league and tournament winners are presented.

Clippers, Scrappers Top Mixed League

The Y-12 Mixed League of plant keglerettes and keggers swung into action last Wednesday night with eight teams of two men and two women bowlers each. The loop added two teams this year to the six that performed last season.

The Clippers and Scrappers started out fast, each posting four-point whitewash victories over the Knockouts and Alley Cats, respectively. The Pin Cats took three points from the Nip and Tucks, while the Oleos and Units broke even at two points each. Len Hart, of the Pin Cats and one of the plant's top bowlers, had a 208 scratch game and because of his proficiency and low handicap, added only one pin for 209 handicap. Goodwin, Nip and Tucks, led the individual series scorers with a 497 scratch and 566 handicap. In team scoring it was the Pin Cats leading in scratch game with 622, handicap game of 757 and scratch series of 1704 and the Units sneaking into the act with a 2191 handicap series for tops.

Team	W	L
Q Balls	4	0
Sooners	4	0
Deltas	4	0
Murderer's Row	3	1
Hornets	1	3
Rusty Five	0	4
Engineers	0	4
Cards	0	4

Highly Accurate Machines In Inspection Lab Used To Check Y-12 Machine Shop Equipment

Continued from Page 1
both lateral and lineal measurements. Just a few of its functions are to check tools that require a high degree of accuracy to do their assigned work, patterns or models—known as templates—screw threads and the numerous gauges used in the General Machine Shop. In fact, Hopper says this highly versatile and valuable machine can do just about everything, including mowing a lawn or making ice cream.

Two Machines Use Form of Light
Two other machines in the laboratory are spectacular in appearance and use forms of light in presenting their findings on measurements requiring extremely high accuracy on jobs where tolerances of even 1/10,000th of an inch make a difference.

One of these is a Shadowgraph—or optical comparator. It has a slight resemblance to one of those old-fashioned peep-shows in penny arcades. It is equipped with about 75 different transparent charts through which light is projected and on which are tested such items as gear ratios, screw threads and other things requiring high precision of measurements.

The other light-using machine is a Monolight for the optical testing of flat surfaces—and this is the machine that will detect flaws up to one one-millionth of an inch. The eerie green vapor light of the Monolight projected downward on surfaces shows up in light bands the defections, if any, of the flat surfaces being tested. Each deflection of one light band represents an error of approximately 11,000,000ths of one inch.

Precision Surface Plate Important

One of the basic pieces of equipment in the laboratory is the Precision Surface Plate. It is a four by eight foot slab of black granite, 20 inches thick, mounted on a steel base and adjustable by screws. On it are tested gauges for measurement of angles and other shop equipment. Laboratory gauge blocks, ranging in size from 1/10,000th of an inch up to four inches are used in the measurements made on this block. With the blocks, 220,000 combinations of dimensions of length can be obtained.

The massive surface plate, weighing 10,500 pounds, is accurate to within 50,000,000ths of the entire surface.

AUTUMN DISHES TOP Y-12 SPECIAL LUNCHES

Attractive autumn dishes are to be served as entrees on the Y-12 Cafeteria Special Lunches tomorrow, Thursday, September 20, and next Tuesday, September 25. For tomorrow the main dish on the 50-cent Special Lunch will be beef chop suey with rice and Chinese noodles while next Tuesday baked stuffed bell peppers with cheese topping will be served. The Special Lunches also include one vegetable, choice of salad or dessert and rolls and butter.

curate to within 50,000,000ths of the entire surface.

For the measurement of angles requiring extreme accuracy, sine plates are used. The sine plates are put on the surface plate and utilizing the gauge blocks the angles are measured sometimes to one second—which is not a measurement of time but 1/60th of a minute, which in turn is one degree of a circle of 360 degrees.

Profilometer Checks Metal Finishes

Thousands of words could be written about the operations performed in the laboratory—such as checking standard lengths, pitch diameters on a Standard Measuring Machine, known as a "Super-mike," and also on a smaller but similar machine called a Toolmaker's Microscope. Then there is the Profilometer for the checking of finishes of metal that also can detect irregularities up to one one-millionth of an inch. Still another valuable machine is one that tests accuracy and measures internal and external dimensions of circular objects such as bushings, sleeves and bearings.

Since its installation the services of the Inspection Standards Laboratory of Y-12 have been made available to other Union Carbide Nuclear Company plants and laboratories in Oak Ridge with the offer frequently being taken up. Such users of the Y-12 equipment can be sure that the same results can be obtained, in many instances, from its use as from the facilities of the United States Bureau of Standards—so highly accurate and efficient are the machines here.

Three C League Teams Blank Foes

The Q Balls, Sooners and the Deltas all posted four-point whitewash wins over the Cards, Rusty Five and Engineers, respectively, in the opening round of play in the C League of plant keggers on September 12. The Murderer's Row team trimmed the Hornets for three points.

Otis Rackley, of the Deltas, swept the boards in individual scoring with a 195 scratch game, boosted to 199 with handicap; a 510 scratch and 571 handicap series. The Deltas had the top handicap game of 921 and handicap series of 2710. The Sooners' 742 scratch game was best of the night as was the 2127 scratch series by Murderer's Row. The Big Five bowlers of opening night and their averages were Rackley 170, Morrow, Murderer's Row, 159; Hatmaker, Hornets, 154; Bryan, Murderer's Row, 153; and McAlister, Engineers, 152.

League standings follow;

Team	W	L
Clippers	4	0
Scrappers	4	0
Pin Cats	3	1
Oleos	2	2
Units	2	2
Nip and Tucks	1	3
Knockouts	0	4
Alley Cats	0	4